

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

**Title: METHOD, SYSTEM, AND PROGRAM PRODUCT FOR
CUSTOMIZING A USER INTERFACE**

Mail Stop Appeal Brief - Patents
Commissioner for Patents
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BRIEF OF APPELLANTS

This is an appeal from the Final Rejection dated March 9, 2009, and further from the Advisory Action dated May 28, 2009, rejecting claims 1-5, 7-11, 13-15, 17-21, and 23-25. This Brief is accompanied by the requisite fee set forth in 37 C.F.R. 41.20(b)(2).

REAL PARTY IN INTEREST

International Business Machines Corporation is the real party in interest.

RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

STATUS OF CLAIMS

As filed, this case included claims 1-25. Claims 1-5, 7-11, 13-15, 17-21, and 23-25 remain pending. Claims 1-5, 7-11, 13-15, 17-21, and 23-25 stand rejected and form the basis of this appeal.

STATUS OF AMENDMENTS

In response to the Final Rejection filed by the Office on March 9, 2009, an After Final Amendment was submitted on May 8, 2009 and subsequently entered by Examiner, as indicated in the Advisory Action of May 28, 2009. No further amendments have been submitted.

SUMMARY OF THE CLAIMED SUBJECT MATTER

The present invention provides a method executable by a computer, a system, and a computer-readable medium storing computer instructions for automatically customizing a user interface based on a user, an object, and a history of object operations. In one embodiment, a history of object operations is updated each time the user selects an object operation. One or more shortcuts are displayed based on the history of object operations. Certain buttons are selected for display based on the history of object operations. As such, the buttons can be displayed based on a history of object operations selected by the user or a group of users, and/or a history of object operations performed on the object or a group of objects. When multiple shortcuts are displayed, they can be ordered such that the shortcut for the most frequently selected object operation is placed in the most convenient location.

Claim 1 claims a method executable by a computer ([0016], lines 1-2; FIG. 1, computer 12) of automatically customizing a user interface (FIG. 2, user interface 40), the method

comprising: identifying a user of the user interface ([0024], lines 1-2), wherein the identifying includes prompting the user to provide a user name and a password ([0024], line 3); displaying on a display an object within the user interface ([0025], lines 1-2; [0019], lines 4-6; FIG. 1, display 32); and displaying on the display a plurality of shortcuts for the object ([0026], lines 1-3), wherein at least one shortcut of the plurality of shortcuts comprises a control for managing the object in an application ([0031], lines 1-4; FIG. 1, application 38), and wherein the plurality of shortcuts is automatically adjusted ([0022], lines 1-3) based on the application that manages the object ([0033], lines 3-4), the identity of the user ([0026], lines 1-3), and a history of object operations performed by the user to manage the object ([0027], lines 3-6; [0028], lines 1-2; [0034], lines 3-5).

Claim 11 claims a method executable by a computer ([0017], lines 3-6; FIG. 1, computer 12) of automatically customizing a user interface ([0016], lines 1-2; FIG. 2, user interface 40), the method comprising: identifying a user of the user interface ([0024], lines 1-2), wherein the identifying includes prompting the user to provide a user name and a password ([0024], line 3); displaying on a display an object within the user interface ([0025], lines 1-2; [0019], lines 4-6; [0023], lines 2-3; FIG. 1, display 32), wherein the object has an object attribute ([0023], line 11); recording object operations that are performed by the user on the object ([0028], lines 2-3; FIG. 3, history 70) to manage the object in a history of object operations ([0031], lines 1-4); and displaying on the display a plurality of shortcuts for the object (FIG. 1, display system 32; [0028], line 12), wherein at least one shortcut of the plurality of shortcuts comprises a control for managing the object in an application ([0031], lines 1-10; FIG. 1, application 38), and wherein the plurality of shortcuts is automatically adjusted ([0022], lines 1-3) based on the application that manages the object ([0033], lines 3-4), the identity of the user ([0026], lines 1-3), the object

attribute, and the history of object operations ([0027], lines 3-6; [0028], lines 1-2, 5-12; [0034], lines 3-5).

Claim 14 claims a system for automatically customizing a user interface ([0016], lines 1-2), the system comprising: an identification system for identifying a user of the user interface ([0024], lines 1-2; [0021], line 2; FIG. 1, identification system 30; FIG. 2, user interface 40), wherein the identifying includes prompting the user to provide a user name and a password ([0024], line 3); a display system for displaying an object in the user interface ([0025], lines 1-2; [0019], lines 4-6; [0021], line 2; FIG. 1, display system 32); a recording system for recording object operations that are selected by the user ([0021], line 3; FIG. 1, recording system 34; [0028], lines 2-3; FIG. 3, history 70), wherein the object operations manage the object ([0031], lines 1-4); and a customization system for displaying a plurality of shortcuts for an object operation ([0021], line 3; FIG. 1, customization system 36; [0028], line 12), wherein at least one shortcut of the plurality of shortcuts comprises a control for managing data in an application ([0031], lines 1-4; FIG. 1, application 38), and wherein the plurality of shortcuts is automatically adjusted ([0022], lines 1-3) based on the application that manages the object ([0033], lines 3-4), the identity of the user ([0026], lines 1-3), the recorded object operations ([0027], lines 3-6; [0028], lines 1-2), and the object ([0022], line 3; [0034], lines 3-5).

Claim 20 claims a computer-readable medium ([0009], lines 1-2; FIG. 1, storage unit 24) storing computer instructions ([0035], line 12), which when executed, enables a computer system ([0017], lines 3-6; FIG. 1, computer 12) to generate an automatically customized user interface ([0016], lines 1-2; FIG. 2, user interface 40), the computer instructions comprising: identifying a user of the user interface ([0024], lines 1-2), wherein the identifying includes prompting the user to provide a user name and a password ([0024], line 3); displaying an object in the user interface

([0025], lines 1-2; [0019], lines 4-6; FIG. 1, display 32); recording object operations that are selected by the user ([0028], lines 1-3; FIG. 3, history 70), wherein the object operations manage the object ([0031], lines 1-10); and displaying a plurality of shortcuts for an object operation ([0028], line 12), wherein at least one shortcut of the plurality of shortcuts comprises a control for managing the object in an application ([0031], lines 1-4; FIG. 1, application 38), and wherein the plurality of shortcuts is automatically adjusted ([0022], lines 1-3) based on the application that manages the object ([0033], lines 3-4; FIG. 1, application 38), the recorded object operations ([0027], lines 3-6; [0028], lines 1-2), and the identity of the user ([0026], lines 1-3; [0034], lines 3-5).

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1. Claims 1-5, 7-11, 13-15, 17-21, and 23-25 stand rejected under 35 U.S.C. § 102(e) as being allegedly anticipated by Beauregard *et al.* (US Pub. 2002/0156774, hereinafter, “Beauregard”).
2. Claims 1-5, 7-11, 13-15, 17-21, and 23-25 also stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Beauregard in view of Bodin *et al.* (US Pat. 7,310,636, hereinafter, “Bodin”).

ARGUMENT

1. REJECTION OF CLAIMS 1-5, 7-11, 13-15, 17-21, AND 23-25 UNDER 35 U.S.C. §102(e) OVER BEAUREGARD

Appellants respectfully submit that the rejection of claims 1-5, 7-11, 13-15, 17-21, and 23-25 under 35 U.S.C. § 102(e) over Beauregard is defective.

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” (MPEP § 2131, citing *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631; 2 U.S.P.Q.2d 1051, 105 (Fed. Cir. 1987).) Because each and every element of claims 1-5, 7-11, 13-15, 17-21, and 23-25 is not found in Beauregard, Appellants respectfully request overrule of the rejections under 35 U.S.C. § 102(e).

In the Final Office Action, the Office asserts that Beauregard teaches the claimed invention including the feature of “displaying on a display a plurality of shortcuts for the object ... wherein the plurality of shortcuts is automatically adjusted based on the application that manages the object” (claim 1, lines 6-10, and similarly recited in claim 11, lines 9-13; claim 14, lines 7-11; and claim 20, lines 6 and 9-13) at paragraphs [0028], [0034], [0160], [0171-0173], [0180-0183], and [0378-0381]. (Final Office Action, p. 3.) Appellants contend, however, that neither the cited passages nor the balance of the Beauregard reference teaches “displaying ... a plurality of shortcuts for the object ... wherein the plurality of shortcuts is automatically adjusted based on the application that manages the object.” (After Final Amendment, p. 9.) Quite the opposite, Beauregard teaches that “context independence is *essential* to the effectiveness of [Beauregard's] present invention.” (*Id.*, quoting Beauregard, [0140], lines 1-2 (emphasis added).) Context independence refers to the invention's ability to “work[] in the same way, no matter what context the user is working in when he requests a service” (Beauregard, [0140], lines

2-4). Beauregard's ActiveWords system is designed to compliment application text services (such as those of the Microsoft Word application) (*id.*, lines 8-12), and work in the background, taking appropriate action when it senses that the user has typed an action word (*id.*, [0138], lines 1-2). Active words are those stored in a word base with an associated script which is executed when the active word is typed by the user. (*Id.*, [0155]-[0157].) Beauregard's invention is designed to work the same way “if the user is working in an application program, a utility program, an Internet browser, or in an operating system work space” (*id.*, [0140], lines 4-6). Appellants submit that these teachings clearly fail to teach, and in fact teach away from, the claimed feature of “displaying ... a plurality of shortcuts for the object ... wherein the plurality of shortcuts is automatically *adjusted based on the application that manages the object.*”

At paragraph [0172], cited by the Office (Final Office Action, p. 3), Beauregard teaches an exception to the theme of context independence, wherein “scripts within wordbase 340 can ... be qualified. For example, a script can be designated as 'only' if a user only wants an action word to cause a function within a certain environment (e.g., a replacement only in his e-mail application, but nowhere else). A script can also be 'contra' indicated if a user does not want an action word to cause a function within certain environments (e.g., perform a replacement of text unless he is in his e-mail application).” ([0172], lines 1-8.) However, Appellants submit that this feature of Beauregard also fails to teach the claimed feature of “displaying a plurality of shortcuts for the object ... wherein the plurality of shortcuts is *automatically* adjusted based on the application that manages the object” because, in order to respond differently in different computing environments, a user of Beauregard's invention would have to pre-set the qualifier or contra-indication. (After Final Amendment, p. 10.) Beauregard's disclosure explicitly requires that “all commands are ... user-defined” (abstract). Therefore, Beauregard's command

qualifications and contra-indications also do not teach “*automatically adjust[ing]* based on the application that manages the object.” (After Final Amendment, p. 10.)

Further, Appellants submit that Beauregard fails to teach the feature of “displaying … a plurality of shortcuts for the object … wherein the plurality of shortcuts is automatically adjusted based on … a history of object operations performed by the user to manage the object” (claim 1, lines 6-11, and similarly recited in claim 11, lines 7-14; claim 14, lines 7, 10-12; and claim 20, lines 6 and 9-14). As discussed above, Beauregard teaches the use of specifically user-set commands, or “ActiveWords,” which do not allow for automatic adjustment of the shortcuts. Beauregard's teaching of archiving every word the user types, and the context in which it was typed also fails to teach automatically adjusting the plurality of shortcuts based on a history of object operations, as Beauregard merely teaches that the archive is used “to determine the productivity benefit the user enjoys from using the word substitution capability of [Beauregard's] invention.” (After Final Amendment, pp. 10-11, quoting Beauregard at [0378].) No adjustment of the ActiveWord commands is taught in connection with the archival of the user's typing history. (After Final Amendment, p. 11.)

Still further, Appellants submit that Beauregard fails to teach the claimed invention including the features of “displaying on a display an object within the user interface” and “displaying on the display a plurality of shortcuts for the object” (claim 1, lines 5-6, and similarly recited in claim 11, lines 5 and 9; claim 14, lines 4 and 7; and claim 20, lines 6 and 9), as Beauregard teaches the use of “simple, language-based commands” (abstract) which “allow a user to launch applications, navigate within applications and control application functions by using their natural language rather than dragging and clicking with a pointing device such as a mouse.” ([0033].) Appellants submit this not only fails to teach, but in fact teaches away from

“displaying an object within the user interface” and “displaying a plurality of shortcuts for the object” as claimed herein, because it preferentially teaches text commands instead of displayed objects and displayed shortcuts. (After Final Amendment, p. 11.)

Accordingly, Appellants submit that Beauregard fails to disclose each and every element as set forth in independent claims 1, 11, 14, and 20. In view of these deficiencies, Appellants submit that the rejections under § 102(e) are defective.

With respect to dependent claims 2-10, 12-13, 15-19, and 21-25, Appellants respectfully submit that these claims are allowable for reasons stated above relative to independent claims 1, 11, 14, and 20, as well as for their own additional claimed subject matter. (After Final Amendment, p. 12.)

B. REJECTION OF CLAIMS 1-5, 7-11, 13-15, 17-21, AND 23-25 UNDER 35 U.S.C. §103(a) OVER BEAUREGARD IN VIEW OF BODIN

Appellants respectfully submit that the alternative rejection of claims 1-5, 7-11, 13-15, 17-21, and 23-25 under 35 U.S.C. § 103(a) over Beauregard in view of Bodin (Final Rejecion, pp. 3-4) is defective.

Appellants initially incorporate the above enumerated arguments describing the deficiencies in the Beauregard reference. Appellants note that Bodin is relied upon only to teach the features of “displaying on a display an object within the user interface; and displaying on a display a plurality of shortcuts for the object, wherein at least one shortcut of the plurality of shortcuts comprises a control for managing the object in an application” (claim 1, and similarly recited in claims 11, 14, and 20). (Final Office Action, p. 4; Advisory Action, Continuation Sheet.) With regard to this feature, Appellants submit that even if, *arguendo*, these features were taught or suggested by the combination of Beauregard and Bodin, one would not be motivated to

combine the two because Beauregard not only fails to teach or suggest these features, but in fact teaches away from Bodin. (After Final Amendment, p. 11.) Beauregard explicitly teaches the use of “simple, language-based commands” (abstract) which “allow a user to launch applications, navigate within applications and control application functions by using their natural language rather than dragging and clicking with a pointing device such as a mouse.” (Beauregard, [0033].) By preferentially teaching text commands instead of displayed objects and displayed shortcuts in this manner, Beauregard teaches away from Bodin's system of presenting information to a user through a user interface. (After Final Amendment, p. 11.)

Appellants further note that Bodin is not alleged to teach or suggest the features of “displaying on a display a plurality of shortcuts for the object ... wherein the plurality of shortcuts is automatically adjusted based on the application that manages the object ... and a history of object operations performed by the user to manage the object” (claim 1, lines 6-11, and similarly recited in claim 11, lines 9-14; claim 14, lines 7-12; and claim 20, lines 9-14). (After Final Amendment, p. 11.)

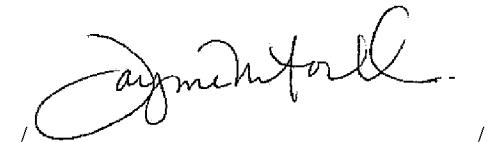
Because Beauregard does not teach or suggest these features for the reasons discussed above, and Bodin neither teaches, nor is alleged to teach these features, Appellants contend that the claimed invention including these features is not obvious in view of the cited art. (After Final Amendment, p. 11.)

With respect to dependent claims 2-10, 12-13, 15-19, and 21-25, Appellants respectfully submit that these claims are allowable for reasons stated above relative to independent claims 1, 11, 14, and 20, as well as for their own additional claimed subject matter. (After Final Amendment, p. 12.)

CONCLUSION

In summary, Appellants submit that claims 1-5, 7-11, 13-15, 17-21, and 23-25 are allowable both because Beauregard fails to teach each and every feature of the claimed invention, and because Beauregard and Bodin, taken alone or in combination, fail to teach, suggest, or make obvious the claimed invention including each of the features claimed therein.

Respectfully submitted,



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CLAIMS APPENDIX

Claim Listing:

1. A method executable by a computer of automatically customizing a user interface, the method comprising:
 - identifying a user of the user interface, wherein the identifying includes prompting the user to provide a user name and a password;
 - displaying on a display an object within the user interface; and
 - displaying on the display a plurality of shortcuts for the object, wherein at least one shortcut of the plurality of shortcuts comprises a control for managing the object in an application, and
 - wherein the plurality of shortcuts is automatically adjusted based on the application that manages the object, the identity of the user, and a history of object operations performed by the user to manage the object.
2. The method of claim 1, wherein the plurality of shortcuts comprises one of: a hyperlink, a button, an icon, a toolbar control, and a menu item.
3. The method of claim 1, wherein the object comprises one of: a data file and a set of related data within a data file.
4. The method of claim 1, further comprising recording object operations that are performed by the user on the object to create the history of object operations.
5. The method of claim 4, wherein the displaying step includes:
 - calculating a frequency that each object operation was selected by the user using the history of object operations;
 - determining a particular object operation having the highest frequency for the user; and
 - displaying the shortcut for the determined object operation.
7. The method of claim 1, wherein the object has one of a plurality of object states, and wherein the displayed shortcuts are further based on the object state.
8. The method of claim 1, wherein the user has a user attribute, and wherein the displayed shortcuts are further based on a history of object operations selected by a set of users having the user attribute.
9. The method of claim 1, wherein the object has an object attribute, and wherein the displayed shortcuts are further based on a history of object operations selected for a set of objects having the object attribute.
10. The method of claim 1, further comprising reserving a portion of a display area of the user interface for displaying the shortcuts, wherein the shortcuts are displayed in the reserved portion.

11. A method executable by a computer of automatically customizing a user interface, the method comprising:

- identifying a user of the user interface, wherein the identifying includes prompting the user to provide a user name and a password;
- displaying on a display an object within the user interface, wherein the object has an object attribute;
- recording object operations that are performed by the user on the object to manage the object in a history of object operations; and
- displaying on the display a plurality of shortcuts for the object,
 - wherein at least one shortcut of the plurality of shortcuts comprises a control for managing the object in an application, and
 - wherein the plurality of shortcuts is automatically adjusted based on the application that manages the object, the identity of the user, the object attribute, and the history of object operations.

13. The method of claim 11, further comprising:

- reserving a portion of a display area of the user interface for displaying the shortcuts, wherein the shortcuts are displayed in the reserved portion.

14. A system for automatically customizing a user interface, the system comprising:

- an identification system for identifying a user of the user interface, wherein the identifying includes prompting the user to provide a user name and a password;
- a display system for displaying an object in the user interface;
- a recording system for recording object operations that are selected by the user, wherein the object operations manage the object; and
- a customization system for displaying a plurality of shortcuts for an object operation,
 - wherein at least one shortcut of the plurality of shortcuts comprises a control for managing data in an application, and
 - wherein the plurality of shortcuts is automatically adjusted based on the application that manages the object, the identity of the user, the recorded object operations, and the object.

15. The system of claim 14, further comprising an application for managing the object and the user interface.

17. The system of claim 14, wherein the object has one of a plurality of object states, and wherein the displayed shortcuts are further based on the object state.

18. The system of claim 14, wherein the user has a user attribute, and wherein the displayed shortcuts are further based on the recorded object operations selected by a set of users having the user attribute.

19. The system of claim 14, wherein the object has an object attribute, and wherein the displayed shortcuts are further based on the recorded object operations selected for a set of objects having the object attribute.

20. A computer-readable medium storing computer instructions, which when executed, enables a computer system to generate an automatically customized user interface, the computer instructions comprising:

- identifying a user of the user interface, wherein the identifying includes prompting the user to provide a user name and a password;
- displaying an object in the user interface;
- recording object operations that are selected by the user, wherein the object operations manage the object; and
- displaying a plurality of shortcuts for an object operation,
 - wherein at least one shortcut of the plurality of shortcuts comprises a control for managing the object in an application, and
 - wherein the plurality of shortcuts is automatically adjusted based on the application that manages the object, the recorded object operations and the identity of the user.

21. The computer-readable medium storing computer instructions of claim 20, further comprising instructions for managing the object and the user interface.

23. The computer-readable medium storing computer instructions of claim 20, wherein the object has one of a plurality of object states, and wherein the displayed shortcuts are further based on the object state.

24. The computer-readable medium storing computer instructions of claim 20, wherein the user has a user attribute, and wherein the displayed shortcuts are further based on the recorded object operations selected by a set of users having the user attribute.

25. The computer-readable medium storing computer instructions of claim 20, wherein the object has an object attribute, and wherein the displayed shortcuts are further based on the recorded object operations selected for a set of objects having the object attribute.

EVIDENCE APPENDIX

No evidence is entered and relied upon in the appeal.

RELATED PROCEEDINGS APPENDIX

No decisions rendered by a court or the Board in any proceeding are identified in the related appeals and interferences section.